

Mineral Industry Surveys

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COBALT IN DECEMBER 2002

On the basis of preliminary data, U.S. consumption of cobalt during 2002 was 9% lower than consumption during 2001, according to the U.S. Geological Survey. The cobalt content of U.S. imports of cobalt metal and chemicals during January through November 2002 was 11% lower than that of imports during the first 11 months of 2001. The cobalt content of U.S. exports of unwrought cobalt and chemicals was 36% lower during January through November 2002 than that during the same period in 2001. Trade data for December 2002 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound, from Platts Metals Week are listed below.

<u>Date</u>	<u>Price range</u>
January 16	7.00-7.50
January 23	7.35-7.75
January 30	7.50-8.00
February 6	7.35-7.75
February 13	7.20-7.40
February 20	7.20-7.40
February 27	7.25-7.55

<u>Month</u>	<u>Average price</u>
January	7.31

Notice

The U.S. Geological Survey (USGS) will no longer print paper copies of the *Mineral Industry Surveys* for mailing list distribution after release of the December 2002 report. The report will continue to be available on the USGS Web site at URL: <http://minerals.usgs.gov/minerals>.

If you would like to receive e-mail notification for future issues of the *Mineral Industry Surveys*, instructions are provided at <http://minerals.usgs.gov/minerals/pubs/listservices.html>.

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
2001:				
December	382	112	217	711
January-December 4/	4,420	1,510	2,610	8,540
Year 5/	5,240	1,510	2,740	9,490
2002:				
January	358 r/	98	215	670 r/
February	345 r/	99	215	659 r/
March	354 r/	105	215	673 r/
April	341 r/	112	215	668 r/
May	349 r/	101	215	665 r/
June	300 r/	113	215	628 r/
July	312 r/	105	215	632 r/
August	321 r/	113	215	648 r/
September	313 r/	119	215	646 r/
October	311 r/	102	215	627 r/
November	334 r/	102	215	651 r/
December	305	101	215	621
January-December 4/	3,940	1,270	2,580	7,790

r/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

5/ Includes annual reports.

4/ Data based on monthly reports.

5/ Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	2001		2002	
	January- December 2/	Year 3/	December	January- December 4/
Steel	503	624	41	543
Superalloys	4,480	4,850	312	3,970
Magnetic alloys	441	472	32	374
Other alloys 5/	W	661	W	W
Cemented carbides 6/	720	720	61	747
Chemical and ceramic uses 7/	2,090	2,100	150	1,860
Miscellaneous and unspecified	302	63	25	300
Total	8,540	9,490	621	7,790

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes annual reports.

4/ May include revisions to prior months.

5/ Includes nonferrous alloys, welding materials, and wear-resistant alloys.

6/ Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

7/ Includes catalysts, driers in paints or related usage, feed or nutritive additive, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Industry 2/				U.S. Government, metal 5/
	Metal 3/	Oxide and other chemical compounds 4/	Scrap	Total	
2001:					
December 6/	382	222	181	786	7,200 e/
Yearend 7/	427	242	181	851	7,200 e/
2002:					
January	415	251	134	800	NA
February	406	247	134	787	NA
March	379	257	135	771	NA
April	368	247	134	749	NA
May	359	240	134	733	NA
June	354	231	134	719	7,100
July	362	223	134	720	6,950
August	409	231	135	774	6,890
September	422	217	135	773	6,860
October	400	214	134	749	6,800
November	388	207	135	730	6,740
December	445	228	135	808	6,680

e/ Estimated. NA Not available.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Includes metal powder.

4/ Data may include other cobalt materials.

5/ Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

6/ Data based on monthly reports.

7/ Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
2001:								
November	604,000	\$10,600,000	81,000	\$1,330,000	142,000	\$654,000	700,000	8,720,000
December	553,000	9,200,000	91,900	1,340,000	254,000	1,080,000	689,000	9,410,000
January-December	7,910,000	183,000,000	1,280,000	25,700,000	2,150,000	11,000,000	9,410,000	XX
2002:								
January	729,000	11,500,000	101,000	1,550,000	267,000	1,220,000	877,000	877,000
February	564,000	9,020,000	148,000	2,300,000	202,000	727,000	725,000	1,600,000
March	679,000	11,000,000	162,000	2,690,000	216,000	849,000	854,000	2,460,000
April	660,000	10,700,000	79,000	1,230,000	268,000	1,080,000	790,000	3,250,000
May	723,000	12,200,000	155,000	2,310,000	176,000	801,000	885,000	4,130,000
June	554,000	10,000,000	82,600	1,330,000	163,000	831,000	662,000	4,790,000
July	559,000	9,580,000	102,000	1,730,000	253,000	1,090,000	702,000	5,500,000
August	294,000	5,170,000	81,600	1,400,000	188,000	886,000	406,000	5,900,000
September	588,000	8,760,000	115,000	1,690,000	235,000	815,000	733,000	6,630,000
October	545,000	8,840,000	106,000	1,480,000	274,000	942,000	695,000	7,330,000
November:								
Australia	2,970	42,200	--	--	--	--	2,970	162,000
Belgium	43,300	686,000	31,000	396,000	--	--	65,600	804,000
Brazil	49,000	860,000	--	--	--	--	49,000	269,000
Canada	56,000	926,000	--	--	--	--	56,000	818,000
China	--	--	596	17,900	--	--	429	40,500
Congo (Kinshasa)	--	--	--	--	--	--	--	271,000
Finland	62,200	1,070,000	33,500	370,000	182,000	554,000	135,000	1,840,000
France	2,910	150,000	4,060	84,600	--	--	5,830	55,200
Germany	--	--	--	--	--	--	--	45,800
Japan	--	--	--	--	4,000	37,400	1,000	22,800
Korea, Republic of	54	3,440	--	--	--	--	54	669
Morocco	--	--	--	--	--	--	--	56,000
Netherlands	--	--	--	--	--	--	--	54,400
Norway	51,000	782,000	--	--	--	--	51,000	1,590,000
Philippines	--	--	--	--	9,070	65,300	3,660	33,700
Russia	17,900	252,000	--	--	--	--	17,900	952,000
South Africa	20,000	274,000	1,360	21,300	--	--	21,000	230,000
Sweden	1,330	46,200	--	--	--	--	1,330	26,900
Switzerland	--	--	--	--	--	--	--	3
Uganda	--	--	--	--	--	--	--	44,000
United Kingdom	--	--	6,480	148,000	--	--	4,670	148,000
Zambia	--	--	--	--	--	--	--	278,000
Total	307,000	5,090,000	77,000	1,040,000	195,000	657,000	415,000	7,740,000

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

4/ Customs value.

5/ Estimated from gross weights.

6/ May include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
2001:						
November	10,800	\$250,000	22,400	\$519,000	17,000	\$1,030,000
December	2,130	47,500	49,200	1,010,000	21,800	1,370,000
January-December	76,100	1,770,000	583,000	10,200,000	233,000	13,400,000
2002:						
January	6,990	152,000	73,900 4/	1,170,000 4/	23,000	925,000
February	3,650	154,000	15,800	379,000	15,300	932,000
March	1,420	187,000	88,200	1,270,000	20,900	1,080,000
April	210	6,350	30,500	546,000	33,500	1,320,000
May	3,600	144,000	21,000	417,000	29,000	977,000
June	679	24,700	27,800	384,000	13,200	855,000
July	11,400	135,000	16,300	389,000	18,900	1,060,000
August	1860	126000	25300	429000	14100 4/	811000 4/
September	21,300	241,000	31,700	530,000	14,600	779,000
October	4,680	84,800	64,300	1,050,000	12,300	854,000
November:						
Belgium	--	--	4,770	89,600	990	43,800
Canada	--	--	1,010	48,000	1,240	256,000
China	--	--	--	--	38	7,230
France	--	--	--	--	860	39,300
Germany	--	--	--	--	1,750	64,400
Ireland	--	--	11,400	230,000	--	--
Japan	200	13,900	5,940	157,000	4,300	124,000
Switzerland	--	--	162	6,990	3	6,890
Taiwan	--	--	100	4,200	--	--
United Kingdom	--	--	668	16,300	10,100	465,000
Total	200	13,900	24,000	552,000	19,300	1,010,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
2001:								
November	306,000	\$4,520,000	41,600	\$581,000	7,770	\$34,300	338,000	3,000,000
December	182,000	3,220,000	32,500	701,000	9,110	77,100	207,000	3,210,000
January-December	2,240,000	57,300,000	1,260,000	10,200,000	254,000	1,980,000	3,210,000	XX
2002:								
January	127,000	2,870,000	25,600	379,000	14,100	98,500	149,000	149,000
February	140,000	2,850,000	6,090	88,100	13,400	85,300	148,000	297,000
March	167,000	3,370,000	5,820	71,700	12,200	67,700	174,000	471,000
April	161,000	3,690,000	35,500	483,000	19,000	97,200	191,000	662,000
May	77,700	1,800,000	57,600	656,000	36,300	185,000	128,000	790,000
June	233,000	4,800,000	71,400	663,000	29,800	208,000	292,000	1,080,000
July	69,700	1,680,000	62,800	1,150,000	12,200	52,700	118,000	1,200,000
August	132,000	3,180,000	71,100	765,000	16,600	75,100	188,000	1,390,000
September	110,000	2,380,000	46,600	511,000	12,700	59,500	146,000	1,530,000
October	99,400	2,900,000	84,700	926,000	5,970	24,600	162,000	1,700,000
November	173,000	3,520,000	47,000	741,000	61,700	233,000	221,000	1,920,000

XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
2001:				
November	42,600	\$1,960,000	2,400	\$58,700
December	82,300	2,710,000	2,330	72,000
January-December	741,000	25,500,000	408,000	3,000,000
2002:				
January	46,000	1,720,000	237,000 3/	776,000 3/
February	136,000	3,070,000	2,900 3/	85,000 3/
March	55,300	1,710,000	575 3/	16,500 3/
April	106,000	2,450,000	--	--
May	74,500	2,100,000	2,910 3/	49,200 3/
June	68,100	2,340,000	2,610 3/	25,700 3/
July	87,100	2,630,000	27,700 3/	110,000 3/
August	83,300	2,570,000	5,290 3/	70,600 3/
September	90,600	2,500,000	1,780 3/	20,700 3/
October	60,000	1,940,000	16,300 3/	87,800 3/
November	51,400	1,880,000	158 3/	5,450 3/

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Free alongside ship (f.a.s.) value.

3/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.